

Appl. No. 10/709,202
Amdt. dated May 26, 2005
Reply to Office action of March 03, 2005

REMARKS

1. Rejection of claims 1 and 10 under 35 U.S.C. 112, first paragraph:

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Claims 1 and 10 are amended to revise the use of "capable of drawing". "Allowing air to be drawn" is now used. No new matter is entered.

10 Withdrawal of this rejection is respectfully requested.

2. Rejection of claims 1-17 under 35 U.S.C. 103(a) as being unpatentable over Kitlas et al. (US 5,852,547):

15 Claims 1 and 10 now recite the stacked arrangement of the fan, heat sink, and circuit to be cooled. This is described in the original disclosure and in Figs. 4 and 5, for example. No new matter is entered.

20 A system, like that of Kitlas, in which the fan is not positioned on top of the heat sink, does not suffer from the heated air re-flow problem addressed by the invention. Referring to Kitlas's Fig. 10, clearly the airflow 104 is parallel to the CPU module 14, such that air does not impact the CPU module 14 or
25 the shroud 10 and halt or get redirected back into the fan. Clearly, the "air wall" 11 does not prevent air re-circulation, and if the "air wall" 11 were missing from Kitlas's system, cooling performance would not be significantly adversely affected.

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The claimed invention aims to solve the air re-circulation problem found in systems in which the fan is stacked onto the heat sink which is stacked onto a circuit. In these systems,
5 heated air impacts the base of the heat sink, the circuit, or the circuit board and can easily return to the fan inlet (see applicant's Fig. 1). A corresponding limitation that differentiates the claimed invention from Kitlas is

10 "the fan module stacked onto the heat sink module with the air inlet of the heat sink module connecting to the air outlet of the fan module, the heat conduction part stacked onto a circuit of the computer system."

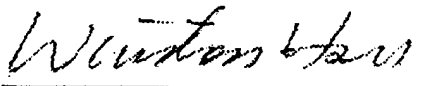
15 Kitlas does not teach this limitation. Furthermore, it is not obvious since the fan 12 could not be stacked onto the CPU since the shroud 10 and the CPU module 14 (i.e. the box-like structure) would cause physical interferences or greatly reduce air flow.

20 The applicant respectfully requests withdrawal of this rejection in view of the amendments to claims 1 and 10 and the explanation above. Claims 2-9 and 11-17 are dependent and should be allowed if claims 1 and 10 are allowed.

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Respectfully submitted,



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